

## 16.—The Effect of the Suppression by the International Commission on Zoological Nomenclature of Zimmermann 1777 upon the Stability of the Generic Name *Macropus* Shaw 1790

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As the result of a ruling of the International Commission on Zoological Nomenclature, *Yerboa gigantea* Zimmermann (the type species of *Macropus* Shaw 1790) has no status in nomenclature. *Macropus giganteus* Shaw 1790 must thus be regarded as new and as the type species of *Macropus* but it is a junior secondary homonym of *Jaculus giganteus* Erxleben 1777 which is in turn an objective synonym of *Mus kanguru* Statius Müller.

It is proposed that the situation be stabilised by the selection of the type of *Mus kanguru* as the lectotype of *Macropus giganteus*.

### Introduction

The type species (by monotypy) of *Macropus* is *Macropus giganteus* Shaw 1790, which is generally regarded as a junior objective synonym of *Yerboa gigantea* Zimmermann 1777. This latter name is entirely based upon material collected by Captain Cook's party at the Endeavour River, Queensland.

To date no author working with marsupials has doubted the validity of Zimmermann's name *Yerboa gigantea* as applied to Captain Cook's Kangaroo and all (including myself and co-workers) have accepted it (see Thomas 1888, Cabrera 1919, Iredale & Troughton 1934, 1937, Raven 1939, Tate 1948, Morrison-Scott & Sawyer 1950, Calaby, Mack & Ride 1962) although there is some disagreement as to the animal species represented by it. However, I now find that the International Commission on Zoological Nomenclature ruled in 1950 that Zimmermann 1777 (Specimen Zoologiae Geographicae) is not available for zoological nomenclature (Bull. Zool. Nomencl. 4: 547); thus *Yerboa gigantea* Zimmermann 1777 carries no more status than a vernacular name.

It is now necessary to ensure that:

- (a) the generic name *Macropus* (of which *Yerboa gigantea* Zimmermann 1777 was believed to be the type species by monotypy) is stable in its present usage, and
- (b) the objective synonymy of *Mus kanguru* Statius Müller† and the various usages of the specific name *giganteus* as applied to Macropodidae are retained. All of the authors since 1777 (Erxleben, Vol. 1, p. 409) who have used *kanguru* have regarded these as synonyms.

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† This author's name is often given as Müller, or as P.L.S. Müller. Holthuis & Jünger (1958), in a footnote, show that the family name is Statius Müller—a name today well known in Holland.

### To Stabilize *Macropus*

As a result of the action of the International Commission, the description of *Macropus* Shaw 1790 now contains no reference to any valid species name other than *Macropus giganteus* Shaw 1790. This name can now be regarded as a new name although it is a junior secondary homonym of *Jaculus giganteus* Erxleben 1777.

No type specimen is known to exist for *Macropus giganteus* Shaw and only one specimen is known to be in existence today which had been seen by Shaw. This is a spirit-preserved juvenile in the collection of the British Museum (Nat. Hist.), No. 145b of a manuscript catalogue by Gray; it weighs 2 lb. 4 oz. and is noted to be "the one described by Dr. Shaw". It is not known whether this note refers to Shaw's 1790 description, or to his later work of 1800, so the specimen cannot be assigned to the type series of *M. giganteus* and is therefore unsuitable for selection as a lectotype. Since the Grey Kangaroos possibly merit treatment at a subspecific level, it is desirable that the types of any names of Grey Kangaroos should have adequate locality data and this specimen has none. I therefore reject it for the purposes of neotype designation as well.

Shaw's 1790 description of *M. giganteus* is based upon material from various sources among which are the three specimens collected by Cook's party at the Endeavour River. Thus any of these (and in particular the holotype of *Mus kanguru* Statius Müller) is available for selection as the lectotype of *M. giganteus* Shaw.

Subsequent to Shaw's 1790 description, in 1800 Shaw himself replaced the name *giganteus* with the replacement-name *major* formally stating at the same time that the new name *major* was synonymous with *giganteus* Shaw and also with *Didelphis gigantea* of Gmelin and Schreber. This last name is simply the employment of *Jaculus giganteus* Erxleben 1777 by these authors in combination with the different generic name *Didelphis*. Thus, it is clear that Shaw regarded both his *major* and *giganteus* as being equal to the earlier *Jaculus giganteus* Erxleben 1777 which is itself no more than a replacement name for the earlier *Mus kanguru* Statius Müller 1776. *Macropus major*, *Jaculus giganteus* and *Mus kanguru* thus all possess the same type specimen (International Code Article 72(d)). Since Shaw (1800, p. 505) formally equated his *giganteus* with all of these, I hereby propose the holotype of *Mus kanguru* Statius Müller as its lectotype.

The holotype of *Mus canguru* now no longer exists and Calaby, Mack & Ride (1962) have proposed an undoubted specimen of a Grey Kangaroo as its neotype—Queensland Museum specimen No. J 10749 male, skin and skull, collected at Kings Plains, 20 miles south of the Endeavour River, November 24, 1960, by D. P. Vernon and S. Breeden and as figured in Calaby, Mack & Ride 1962, Plates 5, 6, 7, 8. An application for recognition of this neotype is at present before the International Commission on Zoological Nomenclature.

By adopting this procedure the generic name *Macropus* is unequivocally fixed to the Grey Kangaroos.

The alternative to the procedure which I outline here would be to have proposed a neotype from Botany Bay for *Macropus giganteus* Shaw because Shaw's description is based in part upon material from that locality described by Penant. But, since *M. giganteus* Shaw is a junior homonym of *Jaculus giganteus* Erxleben (and of Schreber which was in the early 19th century in use as its senior homonym; see Waterhouse 1846, p. 62), it would then require as a substitute the first available replacement name for the Grey Kangaroo. This is possibly *Dipus tridactylus* Perry 1811 or *Kangurus labiatus* Desmarest 1817. (*Macropus major* Shaw is an objective synonym of *Mus canguru* Statius Müller and is not available as a replacement name for *M. giganteus* Shaw). I believe that this would cause greater upset in the literature than the course which I follow.

#### The Synonymy of the Names *canguru* and *giganteus*

Calaby, Mack & Ride have proposed that the Queensland Museum specimen mentioned above should be recognized as the neotype of *M. canguru* Statius Müller and the lectotype of *M. giganteus* Zimmermann. This reference to Zimmermann is now no longer necessary. Erxleben (1777, p. 409) proposed *Jaculus giganteus* as a replacement name for *Mus canguru* Statius Müller and the name *giganteus* is thereby an objective synonym of *canguru* without the need for selection of a lectotype since it automatically possesses the same type specimen as the name which it is proposed to replace (Code Art 72).\*

#### The Controversy over Captain Cook's Kangaroo

While this controversy is only of indirect concern here, some comment should be made on Iredale & Troughton's (1962, p. 183) statement that our arguments (Calaby, Mack & Ride 1962) are based upon a specimen of doubtful authenticity. Iredale & Troughton do not qualify this remark but, because it is made from their venerable position in Australian mammalogy, it casts very real doubt upon our published conclusions.

Briefly, the factual basis of our argument is that Cook's party was known to have collected

three animals and it is possible to find published records of three specimens which, it is reasonable to assume, were brought home to Britain by the party. One is a *robustus* (identified from a contemporary drawing by Morrison-Scott & Sawyer, whose specific identification was confirmed by ourselves), the other two are Grey Kangaroos (identified by J. E. Gray 1843, by Owen 1853, and by Flower 1884). One of these three specimens must be the holotype of *canguru*. From these three we eliminated the juvenile spirit-specimen identified by Gray as a Grey Kangaroo because the holotype was known to have been eaten. The *robustus* was also eliminated because our investigations showed that it would clearly have been too large to have agreed with the known weight of the holotype; we were thus left with only a specimen in the Hunterian collection which from Richard Owen's description we then demonstrated is at a stage of dentition (based on both dental progression and eruption) consistent with the weight specified by Statius Müller for the holotype in his original description.

The specimen listed in the Hunterian catalogues has unambiguous data, i.e., it was presented to Hunter by Banks and came from the Endeavour River. It was identified as a Grey Kangaroo by Owen and later by Flower. Its exact dental-age was specified by both authors who were eminent in this field.

I suspect that the reason for Iredale & Troughton's statement is that the Royal College of Surgeons' lantern slide of this skull (published as a plate in Morrison-Scott & Sawyer 1950) probably has a mis-matched mandible. (The skull has been destroyed and this is the only known illustration of it). In this photograph, the skull is clearly numbered on the maxilla with its catalogue number but, whereas the catalogue states that it has a right mandibular ramus [? only], the illustration is of the left side of a skull with a left mandibular ramus. This ramus is unnumbered. The photograph cannot have been reversed because the catalogue number is the correct way round. To this extent the illustration of the skull—as a picture of a "complete skull" (i.e. cranium and mandible)—could be said to be unreliable. I drew Troughton's attention to this some years ago.

It is important to realize that the arguments in Calaby, Mack & Ride are not based, in any way, upon this illustration but upon Owen's published description of 100 years earlier. They are also based upon Owen's and Flower's identification of the specimen with the Grey Kangaroo and their statements that it was a Banksian specimen from the Endeavour River. Unfortunately, since our argument as to the choice of the holotype from these specimens depended, in part, upon the probability that certain weights and dental ages can be correlated, we believed that action by the International Commission on Zoological Nomenclature was warranted in order to establish nomenclatural stability through placing the nomenclatural problem beyond the upsetting effect of a biologically sterile argument which has gone on since 1927. We thus asked the Commission to accept an undoubted Grey Kangaroo as the neotype of *canguru*.

\* The only other usage of *gigantea* for Macropodidae in 1777 is Schreber, *Säugethiere*, 3, p. 552. Pages 455 onwards were published after Erxleben (Sherborn 1891, p. 588, footnote).



In fairness to Morrison-Scott & Sawyer, whose conclusions are strongly criticized by Iredale & Troughton, it must be pointed out that Iredale & Troughton neglect to bring out certain facts which argue against their own conclusion that Captain Cook's Kangaroo is a Whiptail Wallaby. These are, firstly that the outcome of their controversy with Morrison-Scott & Sawyer over the interpretation of the ambiguous descriptions by Solander, in Latin, of the incisors is still an argument against the species being the Whiptail. They conclude that the third upper incisor of Captain Cook's Kangaroo has a smaller anterior lobe. In fact, the anterior lobe of the third incisor of the Whiptail is not smaller than the posterior lobe, being slightly larger (to markedly greater) than it. Of a series of 12 skulls in the British Museum measured by me the index (Anterior lobe  $I^3$ /Total length of  $I^3$ ) x 100 has a mean of 56.7, with a range from 64.4 to 50.7. Secondly, Iredale & Troughton (1937, p. 68) said that the general coloration of the Cooktown Whiptails agrees with the nondescript colour accorded to Cook's species in the early accounts. This is not so. The Whiptail Wallaby of the Endeavour River is prominently and vividly marked and quite distinct from the Grey Wallaroo and the Grey Kangaroo of the same area. While it is conceivable that a person unfamiliar with kangaroos and wallabies could group Grey Wallaroos and Grey Kangaroos together in the same sample, he could not avoid remarking on the brilliant facial and hip patterns of the Whiptail. The large series collected by the Queensland Museum in the Cooktown district in order to clarify this problem, illustrates this well.

Finally, I am unable to understand the statement (Iredale & Troughton 1962, p. 177) that "the name *giganteus* as applied to the Great Grey Kangaroo is superseded by *major* as type of Shaw's genus *Macropus*". The facts are otherwise and are summarized thus:

(a) Until 1950 (Bull. Zool. Nomencl. 4: 547), the type species of *Macropus* by monotypy was *Yerboa gigantea* Zimmermann 1777. (See Shaw 1790, Vol. 1, text to Plate 33).

(b) Today the type species is *Macropus giganteus* Shaw also by monotypy.

(c) *Macropus major* was first described in synonymy with *Macropus giganteus* Shaw, *Didelphis gigantea* Gmelin, and Schreber. Accordingly, it is either a replacement name for these, i.e. a junior objective synonym of the most senior of them (Code Art. 72(d)), or, being originally described in synonymy with other more senior names, has no status in nomenclature (Code Art. 11(d)). It is certainly not the type species of *Macropus*, and unless the Commission uses its plenary powers in accordance with the recommendations of Calaby, Mack & Ride, its use in any form at all is invalid.

## References

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